

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF IOWA
WESTERN DIVISION

NATIONWIDE AGRIBUSINESS)	
INSURANCE COMPANY,)	
)	Case No. 5:09-cv-04002 MWB
Plaintiff,)	
)	
vs.)	
)	DEFENDANTS' MEMORANDUM
SMA ELEVATOR CONSTRUCTION, INC.;)	OF LAW IN SUPPORT OF JOINT
SCHLAGEL, INC.; BALDOR ELECTRIC)	MOTION IN LIMINE TO EXCLUDE
COMPANY; BALDOR ELECTRIC)	TESTING BY PLAINTIFF'S EXPERTS
COMPANY f/n/a and/or a/k/a DODGE;)	<u>EDWARD BASTA AND PETER DAHL</u>
DODGE a/k/a and/or n/k/a)	
BALDOR ELECTRIC COMPANY.)	
)	
Defendants.)	

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I. INTRODUCTION

Plaintiff has identified Edward Basta, a metallurgist, to offer various opinions in this matter. Basta is a metallurgist, not a bearing or lubrication expert. Basta has opined that on the day of the July 9, 2008 incident in this matter, the grease inside the bearing at issue ignited, and then burned the nearby dust shield. As explained in Defendants' Motion to Exclude Basta's testimony, filed contemporaneously herewith, Basta is not qualified to testify in this regard, nor are his opinions in this regard the result of reliable methods. For the same reasons, and as explained further herein, the Court should exclude from the trial of this matter testimony and videotape regarding certain testing by Basta.

The Court should likewise exclude testimony and photographs from Plaintiff's expert Peter Dahl regarding certain grease ignition testing he performed, for the reasons explained herein.

II. BACKGROUND

A. Testing By Edward Basta

One of the "expert opinions" Basta seeks to offer at the trial of this matter is that the bearing at issue overheated, and then the grease *inside* the bearing "thinned at higher temperatures, and further decreased the lubrication value of the grease to a point where the bearing temperature reached the flash point/ignition temperature of the lubricant still in the bearing, causing the grease to ignite and burn" Basta Report at 11, Exhibit A. Plaintiff seeks to support that opinion by offering videotape of a test Basta performed for a different case, in which he poured heated, fresh grease onto the surface of a bearing that had been heated in excess of 1300 degrees.

However, as noted above, Basta is a metallurgical engineer, not a fire expert. *See* CV (Exhibit 1 to Report) attached as Exhibit A. Plaintiff has offered nothing to establish that Basta is qualified to offer expert testimony regarding fire ignition issues. Significantly, when asked at his deposition whether he could “explain the difference between the flash point and auto-ignition point” (i.e., terminology he used in his own report, as noted above), Basta testified:

A. Not as well as I would like to. I mean, I’m not a tribologist, and I don’t really do this. But what I was looking at was essentially the ignition point of flashing, the fire itself. Flash point, boiling point, vaporization point, I think they’re different. That’s not really my specialty, for example.

Q. Okay. As far as properties of grease, you’re not -- you’re not offering any opinions about what the ignition point or flash point of grease --

A. No.

Q. -- in this case is?

A. I think we have other experts that are lubricant specialists. That’s not my thing.

Basta Deposition 78:24 – 79:14 (emphasis added), Exhibit B.

The testing videotape which Plaintiff seeks to offer was made by Basta with regard to the only other bearing case in which he has ever been involved, involving a grain elevator fire in New Bremen, Ohio. Basta 71:12-17. The New Bremen case involved a smaller bearing, different from the bearing at issue. *Id.* at 72:6 – 73:6. For the New Bremen case, Basta heated up a bearing insert (that is, just the interior portion of the bearing, rather than an entire bearing with its housing) in a furnace to 1325 degrees, and poured a small amount of fresh grease (which had likewise been heated) directly onto the surface of the bearing insert, where it, not surprisingly, ignited. *Id.* at 72:6 – 73:18. Basta candidly admitted that he performed that test because he “just wanted to see if that’s what would occur.” *Id.* at 78:11-23.

While the video of that test would purport to show that a heated bearing can ignite grease (which Basta claims happened in this case), there are numerous circumstances about the testing

which Basta admitted either were different from those present in the instant case, or which he admitted he did not know whether they were different.

Perhaps most saliently, Basta used fresh grease in his test, which would obviously contain a far greater quantity of flammable compounds than grease which had been in a bearing for at least 3 months (the approximate last time the bearing at issue would have been greased, based on the testimony of Midwest Farmers employees in this matter). Moreover, Basta himself contends that the grease in the bearing at issue contained significant amounts of water (which contamination Basta contends caused the friction and overheating which in turn caused the grease to ignite). However, Basta admits that he does not know whether the significant water he contends was present in the grease in the bearing at issue would have affected the grease's ability to catch fire. In that regard, he admitted that he did not know whether the flash point or auto-ignition point is different for brand new grease out of the tube (as he used for his test) versus highly contaminated grease that has been in a bearing for months. Basta 79:15 – 80:3. He testified "I don't know that it is different. I would think that it may well be, with a particular moisture content, for example, it could be different." *Id.* at 79:21-24. (emphasis added). Basta also admits he does not know whether the grease used for his test was the same as the grease in the bearing at issue. *Id.* at 83:15-21.

Further, in the New Bremen test, Basta did not attempt to ignite grease *inside* of a bearing, as he contends happened here. Instead, he simply poured heated grease onto the *surface* of a small bearing, from which the housing had been removed. *Id.* at 80:12-19. Asked whether it would make any difference if the bearing had been inside a housing (as was the case here), Basta could only say "I don't believe it would make a difference. I believe if grease that has this

type of property is in contact with metal that's that hot, due to sliding friction, whatever, what we saw, the metallurgical results and testing, that that grease would ignite." *Id.* at 80:20 – 81:4.

Basta further admitted that he does not know whether the components of grease would separate at some temperature (in which case the volatiles in the grease at issue, under his theory, could have been "cooked" out of the grease long before it reached ignition temperature): "Since you have a vaporization point and boiling points and things like that, I would assume there is some possible degradation or separation of elements, but I don't know." *Id.* at 81:5-13 (emphasis added). Basta further agreed that the circumstances of his prior test were not the same as the conditions that existed on the day of the incident at issue: "Yeah. Again, the conditions weren't simulated exactly for the test even then. It was kind of a professional interest trial to see how the grease would flash on a temperature at or below what we detected the temperature to be, and what it would take, just heat exposure or flame exposure, to damage the UHMW sheet, similar to what we saw in the case. That's why it was done. . . ." *Id.* at 83:22 – 84:13.

In addition to showing the ignition of grease, Basta's video purports to show how damage to a plastic dust shield would occur from a burning bearing. In the video, Basta holds a piece of black plastic directly against, and in the flames of, the burning bearing. The videotape likewise depicts different circumstances, and is unreliable, in regard to the dust shield testing. Basta admitted he has no data regarding the composition of the plastic used in the New Bremen test, and specifically recognized it was a different material than in the present case: "It was -- No. It was purchased from a McMaster car supply house of the same basic thickness. In fact, they used a black shield, to my recollection, versus the whitish in this case. Most UHMW comes whitish. So it may have been a slightly different poly compound, but very similar. It was UHMW, it was pretty similar. So we used the blackish that they had, versus the whitish that we

have here today.” *Id.* at 75:18 – 76:4. Likewise, in that test Basta held the (different) plastic sheeting directly in the flame from the burning grease. *Id.* at 82:20 – 83:13. Basta admits that in that test, the heat shield was held closer to the heat source than was the case at the Alton elevator. *Id.* at 83:10-13. Moreover, even though the plastic in Basta’s video was held directly in the flames for a considerable period of time, the damage which occurred looks very different than the damage that was witnessed to the dust shield in the present case.

B. Testing By Peter Dahl

Like Basta, Plaintiff’s expert Dahl likewise performed testing, all of which was disclosed *after* he issued his expert report in this matter. One of Dahl’s tests was first disclosed the day prior to his deposition; the other two were first disclosed *during* his deposition.¹ Dahl Deposition at 126:8-141; 124:14-22; 119:18 – 120:3, Exhibit C. In one of the two tests at issue, Dahl attempted to ignite a mixture of grease with sparks from a grinder; in the other, he used a hot plate to heat up grease in a stainless steel cup until it ignited.

With regard to the spark ignition test, Dahl mixed grease with grain dust, grain, and “bee’s wings” (a red flaky material from the corn cob which sometimes adheres to corn). *Id.* at 115:14-21; 116:20 – 117:7. He placed that mixture on a heated board and then used a grinder on a piece of electrical conduit to shower it with sparks, to see if it would ignite; it did not. *Id.* at 119:11-14; 120:17-19; 320:19 – 321:12. For that test, he used brand new Cenex grease (of an unknown quantity). *Id.* at 120:20 – 121:5. Dahl did not take any photographs of his actual testing, but later made demonstrative photographs. *Id.* at 117:8-25; 127:23 – 128:22; 321:13 –

¹ In addition to two tests reportedly regarding the ignition properties of grease, Dahl conducted testing of grain dust taken from the Alton elevator, which testing purported to confirm it could explode. That testing is not at issue in this motion.

322:9, Ex. 1231. According to Dahl, he was testing whether sparks were capable of igniting grease. Dahl 322:10-17.

In the other test at issue, Dahl placed a volume of grease inside a stainless steel measuring cup, which he put on a hot plate. *Id.* at 322:16-19; 125:10 – 126:2. Dahl used brand new grease for that testing (but did not measure the volume used). *Id.* at 323:9-25. He then placed a second metal cup on top of the first cup (he claims to hold in the fumes from the heating grease). *Id.* at 324:25 – 325:22. He did not take any photographs or videotape of that test. *Id.* at 326:16-18. He did not perform that test according to any written protocol. *Id.* at 127:2-7. Dahl claims he performed that test to confirm information he received from the manufacturer of Cenex regarding the auto-ignition temperature of Cenex grease. *Id.* at 327:17 – 328:14. Dahl noted that his testing indicated that as the grease heats, the volatiles evaporate from it. *Id.* at 328:21 – 329:22. Dahl testified that he was not offering any opinions about the grease, other than with regard to the fire point and auto-ignition point, as shown in his testing. *Id.* at 329:23 – 330:15.

Dahl purports to use this grease testing to support his theory that existing grease *inside* the bearing may have ignited. *Id.* at 183:25 – 185:2. However, when asked whether he had “any idea or opinion whether grease that has been run through a bearing for several months has the same . . . properties or flammability flash point, other properties as grease that is fresh from the tube,” Dahl answered, over objection “I just refer that question to somebody else. . . . To a grease expert.” *Id.* at 330:16 – 331:3.

III. ARGUMENT

A. Basta’s Testing Should Be Excluded

1. Basta Is Not Qualified To Offer Opinions Regarding Fire Or Grease Ignition Issues

As explained herein and in Baldor's Motion to Exclude Basta's opinion testimony in this matter, Plaintiff cannot meet its burden to establish that Basta, a metallurgist, is qualified to offer testimony regarding the ignition properties of grease in the circumstances of the present case. Expert testimony can only be received from someone who has specialized knowledge or training sufficient to qualify the witness to opine on an issue within his field of expertise, and the expert's opinion must be confined to that field. *See Redman v. John D. Brush & Co.*, 111 F.3d 1174, 1179 (4th Cir. 1997). Plainly if Basta is not qualified to offer such testimony, he does not become qualified to offer it by way of having conducted a single test on a single occasion under very different circumstances (the potential impact of which Basta is not qualified to evaluate, as he himself concedes). If that were the case, any person with a match and something to which to set it could come into Court and offer "expert testimony" about the flammability characteristics of that material.

2. The Circumstances of Basta's Test Video Are Plainly Not Substantially Similar To The Circumstances Of The Present Case

Basta's testing varies in numerous respects from the circumstances of the incident at issue, as Basta himself concedes. That fact, coupled with the fact that Basta's testing video is plainly intended to appear as akin to a re-creation of the circumstances of the incident, requires its exclusion. *See Dunn v. Nexgrill Indus., Inc.*, 636 F.3d 1049 (8th Cir. 2011); *McKnight v. Johnson Controls, Inc.*, 36 F.3d 1396 (8th Cir. 1994).

As the Eighth Circuit explained in *Dunn*, "experimental evidence falls on a spectrum and the foundational standard for its admissibility is determined by whether the evidence is closer to simulating the accident or to demonstrating abstract scientific principles." 636 F.3d at 1055 (quoting *McKnight*, 36 F.3d at 1402). When an experimental test is more akin to recreating the accident than merely demonstrating abstract scientific principles, the evidence is admissible *only*

if the test was conducted under conditions *substantially similar* to the actual conditions at issue. *Dunn*, 636 F.3d at 1055. As the Eighth Circuit explained in *McKnight*, “[t]he closer the experiment gets to simulating the accident, the more similar the conditions of the experiment must be to the accident conditions. Here, we find this to be one of the ‘troublesome cases . . . where some principles of some kind may be demonstrated but in a fashion that looks very much like a recreation of the events that give rise to the trial.’” 36 F.3d at 1402 (quoting *Fusco v. Gen. Motors Corp.*, 11 F.3d 259, 264 n.5 (1st Cir. 1993)).

Clearly, Basta’s test was not intended to demonstrate scientific principles in the abstract. Demonstrating, as abstract scientific principles, that grease could ignite or that direct exposure to fire could damage plastic in a manner similar to the damage found to the dust shield here, does not require either igniting grease on a highly-heated bearing or placing plastic in the flames emanating from burning grease on that bearing. Plainly, Basta’s test video is far closer to an attempted re-creation of the alleged events than a demonstration of abstract principles. In the video, Basta purports to show the very thing that he claims happened here: a bearing was highly heated, igniting grease on the bearing, and the flames of the burning grease were used to damage a plastic sheet representing a dust shield. In *Dunn*, for example, the Eighth Circuit held the trial court properly rejected the plaintiffs’ expert’s contention that he was simply demonstrating scientific principles, when he purported to conduct tests with a grill. Instead, his testing was plainly directed to establishing the fire occurred in the manner plaintiffs contended at trial, and was more a re-creation than a demonstration of scientific principles. In light of that fact, and the differing circumstances between the testing and the actual incident, the testing was properly excluded. *Dunn*, 636 F.3d at 1055-56.

Here, while Basta's testing plainly appears to suggest a demonstration of what happened in the accident (grease on a bearing igniting and damaging a nearby dust shield), the circumstances under which it was conducted differ in a number of significant respects, for which reason it should be excluded for the lack of "substantial similarity."

3. Basta's Video Should Be Excluded Under Fed. R. Evid. 403 On The Basis That Any Probative Value Is Substantially Outweighed By A Danger Of Unfair Prejudice

For the reasons explained herein, Basta's video is unreliable, has no probative value, and should be excluded for those reasons. It should further be excluded under FRE 403 because whatever probative value it could possibly have is substantially outweighed by a danger of unfair prejudice and misleading the jury. There is obviously no videotape or other depiction in this matter of the incident occurring. Basta's videotape would thus be the closest visual representation of what (Plaintiff contends) "actually occurred." Thus, the videotape would plainly leave a significant impression on the minds of the jury as a representation of how the actual incident occurred (the very reason for which it would be offered).

If Basta is permitted to offer testimony, he can certainly testify to the circumstances and results of his testing, including that in his test, the grease he poured on the bearing ignited (and likewise can be cross-examined in those regards). The video is not necessary to such testimony, and given its lack of probative value, any possible probative value is greatly outweighed by its potential prejudice and misleading of the jury.

B. Dahl's Testing Should Be Excluded

Any evidence regarding Dahl's testing should likewise be excluded. Initially, Dahl's hot plate ignition testing should be excluded for two separate reasons. First, to the extent it is intended to demonstrate a scientific principle, that fresh grease can ignite if sufficiently heated,

that scientific principle is not in dispute. Second, to the extent it is intended to serve as a re-creation of the event, the circumstances of the testing were plainly not substantially similar to the incident at issue, and the results are unreliable.

While, as explained below, Dahl's testing clearly attempts to establish what Plaintiff claims occurred on the day of the incident (and thus, it is more nearly an attempt at a re-creation), to the extent Plaintiff contends it merely demonstrates an abstract scientific principle, it should nevertheless be excluded. The "abstract scientific principle" which it would demonstrate is that grease heated to a sufficient temperature can auto-ignite, as explained above. The problem with such testimony is that no one disputes that fact. In fact, Dahl testified he conducted his testing simply to confirm that fact. Dahl 327:17 – 328:14. Therefore, such testimony is not relevant to any fact and dispute, and therefore the potential unfair prejudice, confusion of the issues, and misleading the jury which would arise from the jury incorrectly accepting the testing as proof of Plaintiff's version of the incident obviously outweighs the probative value of such evidence (which is none). Fed. R. Evid. 403.

Dahl's hot plate testing is obviously intended to be more a re-creation than the mere demonstration of an abstract principle as Dahl's testimony makes clear: he relies on that testing (the heating of grease to its auto-ignition point within a partially closed container) to establish his opinion that grease *inside* the bearing may have ignited. Dahl 183:25 – 185:2. However, the circumstances of that testing were not substantially similar to the incident at issue. Perhaps most saliently, Dahl used fresh grease right out of the tube for his testing (whereas the grease in the bearing at issue had been there approximately 3 months, according to the deposition testimony of Midwest Farmers, and was heavily contaminated with moisture, according to Plaintiff's experts). Moreover, Dahl admitted he has no idea or opinions as to whether the resultant differences

would affect the properties or flammability of the grease. Dahl 330:16 – 331:3. Further, Dahl’s grease ignition testing was conducted by inverting one cup over another, apparently with substantial air space remaining, rather than *inside* a bearing where there is next to no air. Moreover, as Dahl noted, he heated the grease rapidly (over 3-4 minutes), during which time the flammable vapors began evaporating from it. Dahl 328:15 – 329:14. Dahl, who is not a grease expert, in no way accounts for whether the flammable components of the months-old grease in the bearing would even still have been present at the time of the incident, or would have been “cooked off” long before by the allegedly slowly failing, and overheating, bearing.

Thus, Dahl’s testing is plainly unreliable, and should be excluded under Federal Rule of Evidence 702. It should also be excluded under Federal Rule of Evidence 403 in that, in light of the foregoing, any possible relevance it may have would be substantially outweighed by the danger of unfair prejudice, misleading the jury, and confusion of the issues, as the jury could incorrectly conclude that Dahl’s ignition testimony as necessarily establishing what happened on the day of the incident.

Dahl’s “spark testing” should likewise be excluded as it is irrelevant to the claims and defenses herein, and therefore its probative value (which is none) is substantially outweighed by the danger of unfair prejudice, confusion of the issues, and misleading the jury. Fed. R. Evid. 403. No party or witness has argued that grease on the bearing at issue was ignited by sparks, and therefore such evidence has no possible relevance.

III. CONCLUSION

For the reasons explained above, the Court should grant Defendants' Motion in Limine and prohibit Plaintiff from introducing evidence regarding the testing conducted by Plaintiff's experts Edward Basta or Peter Dahl.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on August 16, 2011, I electronically filed the foregoing with the Clerk of the Court using the ECF system which will send notification of such filing to the counsel below.

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